



USDA Foreign Agricultural Service

GAIN Report

Global Agriculture Information Network

Template Version 2.09

Required Report - Public distribution

Date: 8/12/2008

GAIN Report Number: BR8014

Brazil

Bio-Fuels

Annual - Biodiesel

2008

Approved by:

Morgan Perkins, ATO Director
U.S. Agricultural Trade Office, Sao Paulo

Prepared by:

Sergio Barros, Agricultural Specialist

Report Highlights:

This reports updates BR6008 and BR7012.

Includes PSD Changes: No
Includes Trade Matrix: No
Annual Report
Sao Paulo ATO [BR3]
[BR]

Table of Contents

| | |
|---|-----------|
| Production, Supply and Demand Table (PS&D) | 3 |
| Brazil's Political Division | 3 |
| Production | 4 |
| Consumption | 8 |
| Trade | 8 |
| Exports | 9 |
| Imports | 9 |
| Stocks | 10 |
| Policy | 10 |
| Exchange Rate | 10 |

Production, Supply and Demand Table (PS&D)

The table below shows the Brazilian Biodiesel PS&D for Calendar Years (CY) 2003 through 2008.

| Brazilian Biodiesel Production, Supply and Demand (January-December, 000 Liters) | | | | | | |
|--|-------|-------|-------|--------|---------|-----------|
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Beginning Stocks | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 0 | 736 | 70,120 | 402,177 | 1,100,000 |
| Imports | 1,193 | 4,484 | 4,770 | 3,868 | 3,650 | 6,500 |
| Total Supply | 1,193 | 4,484 | 5,506 | 73,989 | 405,828 | 1,106,500 |
| Domestic Demand | 43 | 3,047 | 3,771 | 70,451 | 403,288 | 1,005,200 |
| Exports | 1,150 | 1,437 | 1,735 | 3,537 | 2,539 | 1,300 |
| Ending Stocks | 0 | 0 | 0 | 0 | 0 | 100,000 |
| Total Utilization | 1,193 | 4,484 | 5,506 | 73,989 | 405,828 | 1,106,500 |

Source: USDA/FAS/ATO/Sao Paulo.
Note: biodiesel density estimated at 0.875 g/cm3

Brazil's Political Division

The map below shows the Brazilian political division in regions and states.

Brazil: Regions and States



Production

Biodiesel can be produced from several raw materials such as soybeans, castor seed (*Ricinus communis*), African palm oil (dende), "pinhao manso" (*Jatropha curcas*), sunflower, peanut, animal fat, fried oil or others. The following table shows harvested area and production for major agricultural crops, as reported by CONAB.

| Quantity of Feedstock Availability for Biodiesel Production (000 hectares, 000 metric tons) | | | | | | | | | | |
|---|-------------|----------|----------|----------|----------|------------|----------|----------|------------|------------|
| Region | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2003/04 | 2004/05 | 2005/06 | 2006/07 1/ | 2007/08 2/ |
| | AREA | | | | | PRODUCTION | | | | |
| | SOYBEANS | | | | | | | | | |
| North | 352.4 | 521.9 | 507.5 | 410.6 | 495.1 | 913.7 | 1,419.9 | 1,255.2 | 1,079.9 | 1,416.6 |
| Northeast | 1,323.3 | 1,442.1 | 1,487.1 | 1,454.9 | 1,579.8 | 3,538.9 | 3,953.1 | 3,560.9 | 3,867.2 | 4,834.3 |
| Center-We | 9,659.3 | 10,857.0 | 10,742.6 | 9,105.1 | 9,613.4 | 24,613.1 | 28,973.5 | 27,824.7 | 26,494.8 | 28,984.9 |
| Southeast | 1,826.9 | 1,891.6 | 1,717.5 | 1,468.8 | 1,396.4 | 4,474.4 | 4,752.0 | 4,137.1 | 4,005.4 | 4,001.3 |
| South | 8,213.9 | 8,588.5 | 8,294.7 | 8,247.4 | 8,138.1 | 16,252.6 | 13,206.2 | 18,249.2 | 22,944.5 | 20,606.0 |
| Total Braz | 21,375.8 | 23,301.1 | 22,749.4 | 20,686.8 | 21,222.7 | 49,792.7 | 52,304.6 | 55,027.1 | 58,391.8 | 59,843.0 |
| | SEEDCOTTON | | | | | | | | | |
| North | 3.8 | 1.4 | 0.0 | 0.7 | 1.2 | 12.0 | 4.8 | 0.0 | 2.6 | 4.5 |
| Northeast | 296.2 | 330.9 | 300.5 | 353.0 | 378.9 | 762.5 | 853.2 | 872.3 | 1,215.7 | 1,335.0 |
| Center-We | 632.1 | 658.4 | 465.6 | 665.9 | 660.9 | 2,232.0 | 2,159.4 | 1,628.2 | 2,458.9 | 2,503.7 |
| Southeast | 121.8 | 132.5 | 74.2 | 64.5 | 38.2 | 310.1 | 301.2 | 193.1 | 205.1 | 134.8 |
| South | 46.1 | 56.2 | 15.9 | 12.7 | 6.9 | 92.0 | 78.4 | 30.1 | 27.9 | 18.3 |
| Total Braz | 1,100.0 | 1,179.4 | 856.2 | 1,096.8 | 1,086.1 | 3,408.6 | 3,397.0 | 2,723.6 | 3,907.0 | 3,996.3 |
| | PEANUTS | | | | | | | | | |
| North | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | - |
| Northeast | 9.7 | 9.2 | 11.1 | 10.5 | 10.3 | 14.5 | 11.0 | 12.7 | 10.9 | 11.8 |
| Center-We | 0.0 | 11.8 | 10.2 | 6.7 | 8.9 | 0.0 | 33.2 | 27.9 | 16.0 | 21.5 |
| Southeast | 79.9 | 99.4 | 82.1 | 75.0 | 86.8 | 188.8 | 245.7 | 211.8 | 179.4 | 231.2 |
| South | 8.6 | 9.1 | 9.7 | 10.4 | 10.5 | 14.0 | 11.8 | 15.3 | 19.4 | 23.3 |
| Total Braz | 98.2 | 129.5 | 113.1 | 102.6 | 116.6 | 217.3 | 301.6 | 267.7 | 225.7 | 287.8 |
| | CASTOR BEAN | | | | | | | | | |
| North | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northeast | 163.8 | 209.8 | 142.2 | 151.2 | 160.2 | 104.5 | 202.0 | 95.7 | 86.9 | 136.7 |
| Center-We | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Southeast | 2.4 | 4.3 | 5.2 | 4.3 | 6.8 | 2.8 | 6.7 | 7.5 | 6.6 | 9.3 |
| South | 0.0 | 1.0 | 0.5 | 0.1 | 0.0 | 0.0 | 1.1 | 0.7 | 0.2 | 0.0 |
| Total Braz | 166.2 | 215.1 | 147.9 | 155.6 | 167.0 | 107.3 | 209.8 | 103.9 | 93.7 | 146.0 |
| | SUN FLOWER | | | | | | | | | |
| North | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northeast | 0.0 | 0.0 | 0.0 | 0.8 | 4.5 | 0.0 | 0.0 | 0.0 | 0.9 | 5.2 |
| Center-We | 45.8 | 36.5 | 43.5 | 49.1 | 71.4 | 72.4 | 49.2 | 58.7 | 69.0 | 109.5 |
| Southeast | 2.0 | 2.3 | 2.2 | 2.2 | - | 3.0 | 3.8 | 3.3 | 3.3 | 0.0 |
| South | 7.3 | 11.3 | 21.2 | 23.3 | 19.1 | 10.4 | 15.1 | 31.6 | 32.9 | 29.6 |
| Total Braz | 55.1 | 50.1 | 66.9 | 75.4 | 95.0 | 85.8 | 68.1 | 93.6 | 106.1 | 144.3 |
| Source: MAPA/CONAR | | | | | | | | | | |

Source: MAPA/CONAB

The tables below show official USDA data for soy and cotton oil production for marketing years (MY) 2003/04 through 2007/08, as well as a projection for MY 2008/09. Note that CONAB'S figures for soybeans and seed cotton (previous table) differ from USDA's official numbers and were included only for comparison basis (given that they provide a regional production breakdown).

| Brazilian Soybeans and Products Production (000 hectares, 000 metric tons) | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| | 2004/2005 | 2005/2006 | 2006/2007 | 2007/2008 | 2008/2009 |
| Area harvested | 22,800 | 22,229 | 20,700 | 21,300 | 22,000 |
| Soybeans | 53,000 | 57,000 | 59,000 | 61,000 | 62,500 |
| Soybeans for crushing | 29,728 | 28,756 | 31,300 | 32,500 | 32,500 |
| Meal, Soybean | 22,928 | 22,300 | 24,250 | 25,175 | 25,175 |
| Oil, Soybean | 5,708 | 5,521 | 6,000 | 6,225 | 6,225 |
| Source: USDA/FAS | | | | | |

| Brazilian Cotton and Products Production (000 hectares, 000 metric tons) | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| | 2004/2005 | 2005/2006 | 2006/2007 | 2007/2008 | 2008/2009 |
| Area Harvested | 1,172 | 850 | 1,094 | 1,090 | 980 |
| Seed Cotton 1/ | 3,391 | 2,685 | 3,918 | 4,078 | 3,648 |
| Lint Cotton | 1,285 | 1,023 | 1,524 | 1,557 | 1,393 |
| CottonSeed | 1,797 | 1,507 | 2,006 | 1,927 | 1,927 |
| Meal, Cottonseed | 885 | 740 | 1,040 | 1,095 | 1,015 |
| Oil, Cottonseed | 305 | 246 | 342 | 360 | 335 |
| Source: USDA/FAS 1/ Seed cotton calculated based on average lint yields. | | | | | |

In spite of the diversity of raw materials which can potentially be used to produce biodiesel, soybeans, followed by animal tallow, remain the only options for large-scale production given current infrastructure and production volumes. Indeed, soybeans and animal tallow currently represent over 80 and 15 percent of total Brazilian biodiesel feedstock, respectively.

Biodiesel production is regulated by the Brazilian Government. According to updated information from ANP, Brazil's national agency for petroleum and fuel products, Brazil has 56 plants currently authorized to produce biodiesel. Industrial capacity is estimated at 4.3 billion liters. In addition, many projects are still waiting ANP authorization. The tables below show current authorized capacity, by region.

| Biodiesel Industrial Capacity (Million liters/year) | |
|---|---------------------|
| State/Region | Authorized Capacity |
| TO | 116,100 |
| PA | 34,500 |
| RO | 18,600 |
| Total North | 169,200 |
| BA | 208,500 |
| CE | 828,000 |
| MA | 108,000 |
| PI | 81,000 |
| Total Northeast | 1,225,500 |
| GO | 259,800 |
| MT | 746,598 |
| Total Center-West | 1,006,398 |
| SP | 555,872 |
| RJ | 18,000 |
| MG | 750,000 |
| Total Southeast | 1,323,872 |
| RS | 532,200 |
| PR | 57,000 |
| Total South | 589,200 |
| Total Brazil | 4,314,170 |
| Source: ANP. Updated on 07/03/2008 | |
| Note: Numbers are estimated on a 300 day operation cycle per year | |

Brazil's biodiesel industrial capacity, represents over 5 times the mandatory biodiesel production to be blended in mineral diesel (B2) as of January 2008. In order to partially offset the likely oversupply, Resolution # 2 of the National Council of Energy Policy (CNPE) increased the compulsory mixture to 3 percent of biodiesel in the mineral diesel (B3), as of July 2008.

The Brazilian biodiesel market is regulated by the Brazilian Government through a public auction system which sets the volume of biodiesel that should be produced and delivered to fuel distributors in a particular period of the year as well as the average sales price. The auction system gives preference to producers with the "Social Fuel Stamp" (see BR7012 for additional information), given that only those with the aforementioned stamp are eligible for production of 80 percent of the total auctioned volume.

The table below summarizes the results of the four auctions coordinated by ANP in November 2007 and April 2008, where 710 millions liters of biodiesel were sold for delivery during the nine months of 2008. Two additional auctions should take place in mid-August to guarantee supply (330 million liters) for the last quarter of the year.

| Biodiesel Auctions | | | | |
|--|-------------|-------------|-------------|-------------|
| Auction | 6th Auction | 7th Auction | 8th Auction | 9th Auction |
| Date | 11/13/2007 | 11/14/2007 | 10/4/2008 | 11/4/2008 |
| Number of Suppliers | 7 | 9 | 19 | 13 |
| Offered Quantity (000 Liters) | 304,000 | 76,000 | 343,900 | 86,350 |
| Purchased Quantity (000 Liters) | 304,000 | 76,000 | 264,000 | 66,000 |
| Average Price (R\$/liter) 1/ | 1.870 | 1.859 | 2.690 | 2.680 |
| Delivery Date | Jan-Jun/08 | Jan-Jun/08 | Jul-Set/08 | Jul-Set/08 |
| Source: ANP 1/ Price FOB, including PIS/PASEP and COFINS, excluding ICMS | | | | |

ATO/Sao Paulo estimates total Brazilian biodiesel production for 2008 at 1.1 billion liters to meet projected mandatory demand. Actual biodiesel production is reported below. As opposed to 2006 and 2007, biodiesel plants should meet the contracted volumes in 2008. Indeed, cumulative January-May 2008 production is 351.8 million tons, or 93 percent of the auctioned volume for January-June 2008.

During 2006 and 2007, biodiesel plants delivered only 472.3 million liters to Petrobras and Refap, or 53 percent of the total contracted volume for the period (885 million through five auctions – see BR7012). Industry contacts report that lower production was due to the high cost of the raw material, specifically, soybean oil, and the fact that the 2 percent blend was not yet compulsory.

| Brazilian Biodiesel Monthly Production/Deliveries (m3) | | | | |
|--|------------|---------------|----------------|----------------|
| Month | 2005 | 2006 | 2007 | 2008 |
| January | 0 | 1,211 | 16,947 | 75,727 |
| February | 0 | 1,287 | 16,740 | 75,904 |
| March | 8 | 2,102 | 22,606 | 61,822 |
| April | 13 | 2,147 | 18,773 | 62,183 |
| May | 26 | 2,578 | 25,891 | 76,149 |
| June | 23 | 6,490 | 26,977 | |
| July | 7 | 3,331 | 26,537 | |
| August | 57 | 5,102 | 43,665 | |
| September | 2 | 6,735 | 45,941 | |
| October | 34 | 8,581 | 53,523 | |
| November | 281 | 16,025 | 54,778 | |
| December | 285 | 14,531 | 49,800 | |
| Total | 736 | 70,120 | 402,177 | 351,785 |
| Source: Brazilian Agency for Petroleum and Fuel Products (ANP) | | | | |

The Brazilian Association of Vegetable Oil Industries (ABIOVE) reports that raw materials correspond to approximately 80 percent of the production cost. Given that over 80 percent of the Brazilian biodiesel production results from the use of soybean oil, the profitability of the sector has been reduced by the high prices of that product. The average crude soybean oil price in the state of Sao Paulo in the first semester of 2008 is R\$ 2,867/ton, as opposed to R\$ 1,817/ton for 2007.

| Soybean Oil, Crude - Prices (2008) | | | | | | |
|--|----------|----------|----------|----------|----------|----------|
| Location | January | February | March | April | May | June |
| Chicago (US\$/ton) | 1,125.23 | 1,322.10 | 1,343.26 | 1,294.32 | 1,346.79 | 1,398.98 |
| Prêmio (US\$/ton) | 25.57 | 34.17 | 26.01 | 33.73 | -12.79 | -26.46 |
| Port of Paranaguá - Fob (US\$/ton) | 1,150.80 | 1,356.27 | 1,369.27 | 1,328.05 | 1,334.00 | 1,372.52 |
| São Paulo - (R\$/ton com ICMS 12%) | 2,518.00 | 2,802.50 | 2,857.50 | 2,765.00 | 2,652.50 | 2,526.25 |
| Elaborated by ABIOVE based on several sources including. | | | | | | |

Note that the price is still determined by the public auction system. Biodiesel producers can not change the sales price set at the auctions and consequently have to search for low cost raw material and/or hedge their activities to offset risk.

Consumption

Brazil's mineral diesel consumption was estimated at 41.5 billion liters in 2007. The table below shows the Brazilian vehicle fuels consumption matrix from 2003 through 2007, according to ANP. Biodiesel consumption for 2008 is estimated at 1 billion liters to follow the mandatory mixture of to percent (B2) during the January-June period and 3 percent (B3) as of July.

| Brazilian Fuel Consumption Matrix (million liters) | | | | | |
|--|--------|--------|--------|--------|--------|
| | 2003 | 2004 | 2005 | 2006 | 2007 |
| Diesel | 36,853 | 39,219 | 39,052 | 38,854 | 41,559 |
| Gasoline C** | 21,791 | 23,165 | 23,542 | 23,979 | 24,326 |
| Hydrated Ethanol | 3,245 | 4,355 | 4,654 | 6,010 | 9,367 |
| Source: ANP | | | | | |
| **including 20-25 percent anhydrous ethanol | | | | | |

Trade

The following tables show biodiesel imports by origin and exports by country of destination for calendar years 2006, 2007 and 2008 (January-May). To date, no significant exports have occurred. However, Brazil could become a net exporter due to the excess industrial capacity.

Exports

| Brazilian Biodiesel Exports by Country of Destination (metric tons, US\$ FOB 000) | | | | | | |
|--|-------------------|-------|-------------------|-------|-------------------|-------|
| | CY 2006 1/ | | CY 2007 1/ | | CY 2008 2/ | |
| Country | Quantity | Value | Quantity | Value | Quantity | Value |
| Argentina | 456 | 843 | 640 | 1,678 | 56 | 158 |
| Germany | 1,543 | 1,117 | 336 | 599 | 0 | 0 |
| Singapore | 500 | 808 | 190 | 379 | 74 | 228 |
| Mexico | 1 | 1 | 178 | 297 | 2 | 4 |
| China | 99 | 185 | 147 | 226 | 41 | 105 |
| Paraguay | 38 | 138 | 139 | 704 | 65 | 392 |
| Chile | 74 | 228 | 121 | 331 | 55 | 182 |
| U.S.A. | 204 | 633 | 105 | 271 | 16 | 20 |
| Peru | 50 | 158 | 50 | 178 | 16 | 61 |
| Thailand | 0 | 1 | 48 | 58 | 0 | 0 |
| Others | 132 | 416 | 267 | 737 | 149 | 360 |
| Total | 3,095 | 4,529 | 2,222 | 5,459 | 473 | 1,510 |
| Source : Brazilian Secretariat of Foreign Trade (SECEX). (NCM 3824.9029) | | | | | | |
| 1/ January-December; 2/ January-May. | | | | | | |

Imports

| Brazilian Biodiesel Imports by Country of Origin (metric tons, US\$ FOB 000) | | | | | | |
|---|-------------------|-------|-------------------|-------|-------------------|-------|
| | CY 2006 1/ | | CY 2007 1/ | | CY 2008 2/ | |
| Country | Quantity | Value | Quantity | Value | Quantity | Value |
| U.S.A. | 1,134 | 2,562 | 998 | 2,739 | 852 | 2,376 |
| Germany | 476 | 1,623 | 576 | 2,027 | 443 | 1,460 |
| Mexico | 503 | 1,243 | 569 | 1,596 | 441 | 1,408 |
| Denmark | 545 | 797 | 440 | 759 | 231 | 471 |
| Netherlands | 203 | 667 | 186 | 674 | 168 | 627 |
| Finland | 82 | 117 | 82 | 120 | 0 | 0 |
| United Kingdom | 91 | 284 | 74 | 258 | 30 | 140 |
| Spain | 61 | 181 | 74 | 210 | 25 | 118 |
| Italy | 134 | 284 | 62 | 175 | 18 | 80 |
| Singapore | 34 | 77 | 61 | 134 | 14 | 30 |
| Others | 123 | 431 | 75 | 350 | 162 | 411 |
| Total | 3,385 | 8,266 | 3,194 | 9,044 | 2,385 | 7,121 |
| Source : Brazilian Secretariat of Foreign Trade (SECEX) NCM 3824.9029 | | | | | | |

Stocks

In December 2007, the Brazilian Government mandated that 100 million liters of strategic biodiesel stocks be created and managed by Petrobras as of January 2008, in order to guarantee the regular supply of the product. The creation of the strategic stocks also follows regulations set the public auctions.

Policy

The National Biodiesel Production Program (PNPB) was created in 2004 by Federal Law # 11.097 establishing a legal mandate for use of biodiesel as a fuel: the B2 became effective from January to June 2008 whereas the increase of the blend to three percent (B3) became mandatory as of July 2008. No changes have been made with regard to the tax framework applied to biodiesel production (see BR7012).

Exchange Rate

| Exchange Rate (R\$/US\$1.00 - official rate, last day of period) | | | | | | |
|--|------|------|------|------|------|------|
| Month | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| January | 3.53 | 2.94 | 2.62 | 2.22 | 2.12 | 1.76 |
| February | 3.56 | 2.91 | 2.60 | 2.14 | 2.12 | 1.68 |
| March | 3.35 | 2.91 | 2.67 | 2.17 | 2.05 | 1.75 |
| April | 2.89 | 2.94 | 2.53 | 2.09 | 2.03 | 1.69 |
| May | 2.97 | 3.13 | 2.40 | 2.30 | 1.93 | 1.63 |
| June | 2.87 | 3.11 | 2.35 | 2.16 | 1.93 | 1.64 |
| July | 2.97 | 3.03 | 2.39 | 2.18 | 1.88 | 1.57 |
| August 1/ | 2.97 | 2.93 | 2.36 | 2.14 | 1.96 | 1.57 |
| September | 2.92 | 2.86 | 2.22 | 2.17 | 1.84 | -- |
| October | 2.86 | 2.99 | 2.25 | 2.14 | 1.74 | -- |
| November | 2.95 | 2.73 | 2.21 | 2.17 | 1.78 | -- |
| December | 2.89 | 2.65 | 2.26 | 2.14 | 1.77 | -- |
| Source : Gazeta Mercantil and BACEN (as of October 2006) | | | | | | |
| 1/ August 2008 refers to August 4. | | | | | | |